EC Backward Centrifugal Fan

LWBE3G175-072PS-01

Ningbo Longwell Electric Technology CO.,LTD

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Model No.:	LWBE3G175-072PS-01
Version Number:	A0
Make :	Jin
Review :	Zhong
Approvd :	Yao/Jiang
Date:	2023.06.25

技术专用
朗伟电器

Version number	Notes Remarks	Reason content	Revised by	Date

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Nominal Data

Project1	Unit	Rating
Nominal Voltage :	[VAC]	230
Voltage Range :	[VAC]	176~264
Frequency :	[Hz]	50/60
Speed :	[rpm]	2800
Current :	[A]	0.4
Power input :	[W]	55
Air flow (Max) :	[m3/h]	536
	[CFM]	315
Static pressure (Max) :	[Pa]	453
Noise level (LpA):	dB(A)	65
Max.ambient Temp :	℃	60
Min.ambient Temp :	℃	-25
Insulation Class :		Class B
Protection Type :		IP55
Work system :		S1

Technical Features

Production Reference standard	GB12350《Safety requirements of small power motors》 JB/T10563 《technical specification for general purposes centrifugal fans》 EN60335-1《Household and similar electrical appliances-safety》 ISO5801-1997《Industrial fans-performance testing using standardized airways》 GB/T2888《Methods of Noise Measurement for Fans Blowers Compressors and Roots Blowers》
Certification	CE ETL (UL 507:2017 Ed.10+R:27May2020，CSA C22.2#113:2018 Ed.11)
Environmental protection	RoHS、Reach

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Technical Features

Service environment	Operating temperature：-25~60℃；Operating humidity：5 ~ 90 % RH Storing temperature：-40 ~ 80℃；Storing humidity：≤95 % RH Applicable altitude range：＜1000m
Life Expectance	40,000Hours(L10)，At 40℃ room, humidity 15%~65%RH.
Balancing	According to JB/T 9101-1999 requirements G6.3
Vibration of the fan	Test method accord with JB/T 8689
Installation method	Horizontal or vertical installation
Material	PA6+GF30% （Impeller）
Bearing	Maintenance-free deep groove ball bearings
Weight	APPROX 2.4 (Kg)

Electrical Protection

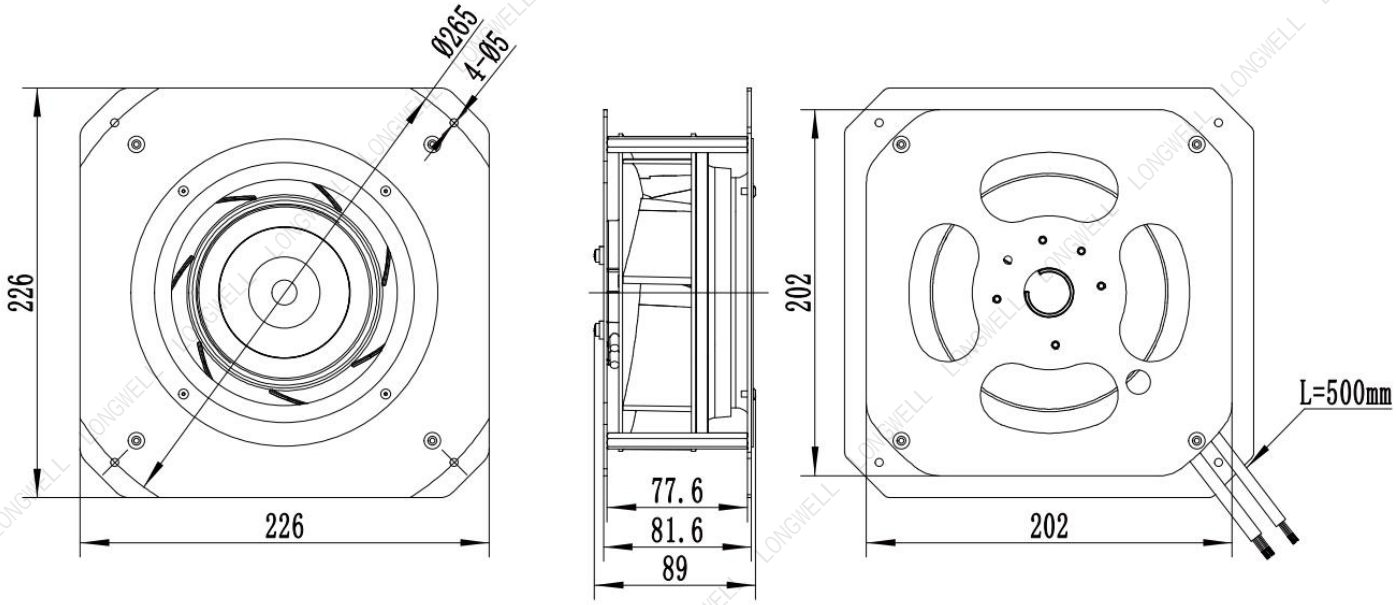
Speed Control	Control input 0~10VDC/PWM
VSP Control	Control signal VSP voltage range1VDC~9.5VDC (During normal operation, when the VSP voltage is below 0.8VDC, the motor switches from operating mode to standby mode)
PWM Control	PWM signal: frequency 1K ~ 10KHz, amplitude 10V,duty cycle 10% ~ 100% .
Signal Output	Tach output：2 Pulse/R；FG internal open circuit output, external pull-up resistor R, pull-up voltage V+
Auxiliary power output	Output 10VDC，Max Current 10mA
Protection	Current limiting protection 、Over-temperature protection、Over-current protection Locked-rotor protection
Soft start	Delay time <10 seconds to full speed
Serial Communication	/

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Product Drawing

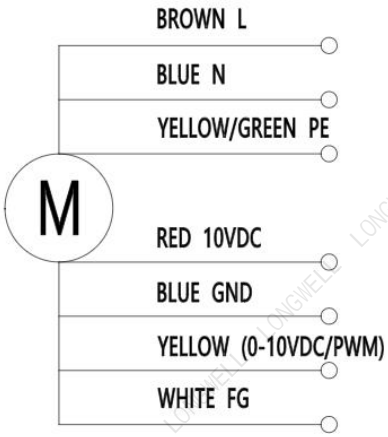


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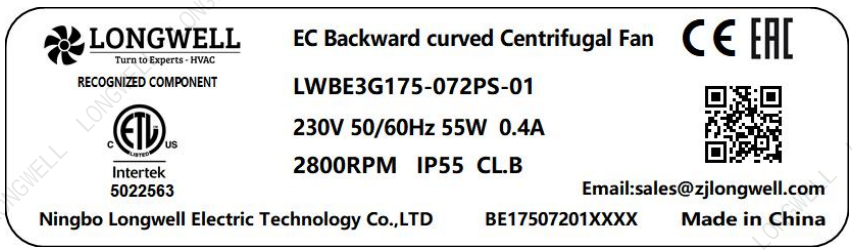
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Wiring Diagram



L	Color	Function	Functional description
L1	Brown	L	Live line
	Blue	N	Naught line
	Yellow/Green	PE	Ground lead
L2	Red	+10VDC	Fixed voltage output 10VDC,≦10mA
	Blue	GND	Ground reference end of control signal
	Yellow	Speed Control	Speed regulation signal input terminal,0-10VDC voltage /PWM
	White	FG	Speed feedback pulse output

Label

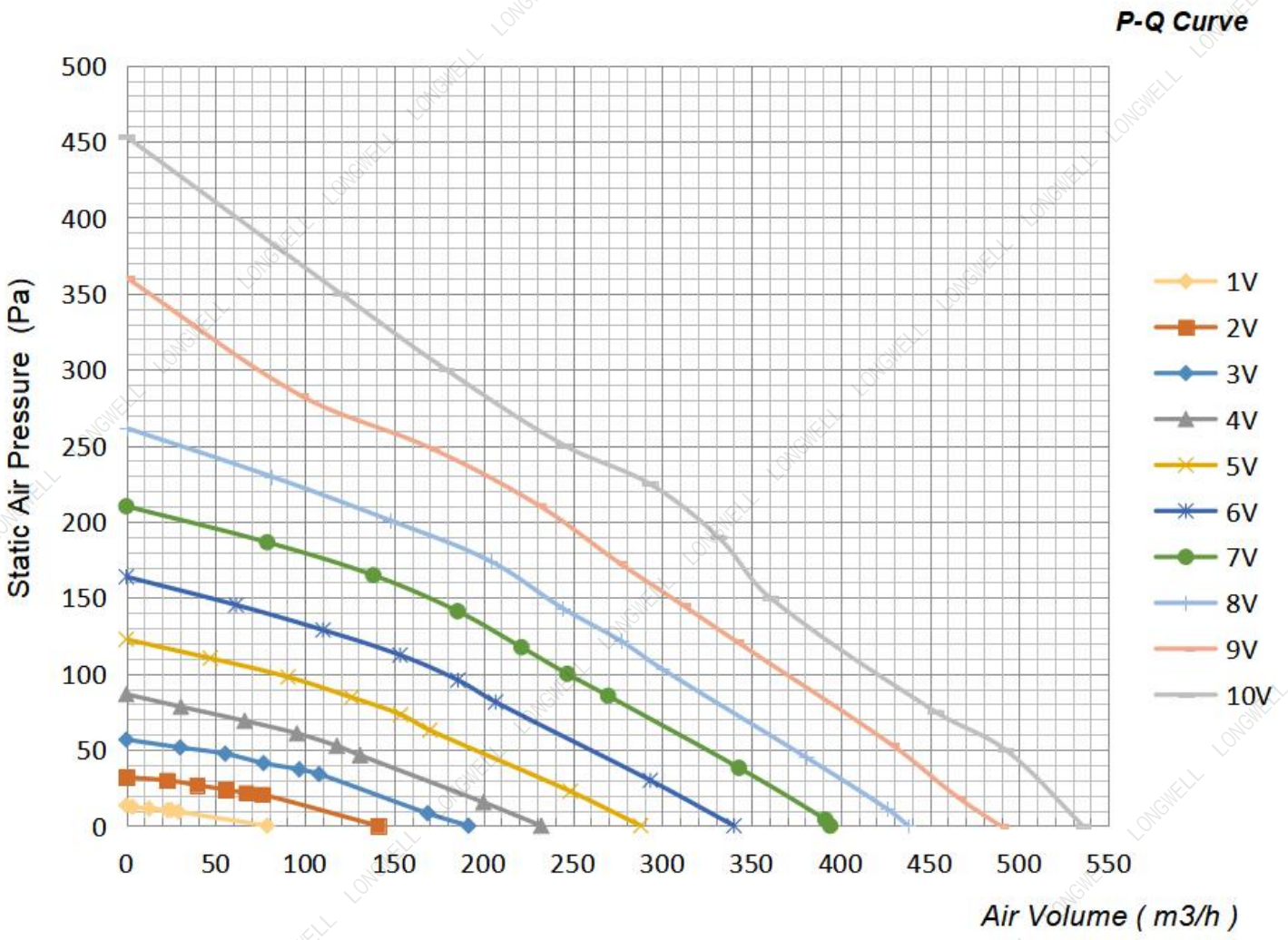


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Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
10V	3146	40	0	453
	3000	47	120	350
	2908	49	179	300
	2879	49	245	250
	2850	55	293	225
	2863	49	331	190
	2875	48	360	150
	3017	43	453	75
	3067	41	492	50
	3100	40	536	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	2963	34	0	322
	2817	40	97	283
	2738	42	171	248
	2721	42	230	211
	2683	43	276	173
	2725	42	311	145
	2750	41	341	122
	2854	36	428	54
	2925	35	466	19
	2946	34	489	0
8V	2675	25	0	262
	2529	29	81	230
	2471	30	148	201
	2467	31	204	174
	2442	32	244	143
	2463	31	277	122
	2483	30	300	103
	2579	28	380	45
	2654	26	426	11
	2671	26	438	0
7V	2400	19	0	210
	2275	22	0	186
	2233	23	79	165
	2217	23	138	141
	2183	24	185	117
	2200	23	221	100
	2233	22	247	85
	2304	21	270	38
	2388	19	343	4
	2379	19	391	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	2108	14	0	164
	2004	16	61	145
	1975	17	110	129
	1971	16	153	112
	1942	17	186	96
	1942	17	207	81
	2038	15	293	30
	2108	14	340	0
5V	1813	11	0	123
	1738	11	47	110
	1713	11	91	98
	1708	12	126	84
	1700	12	154	73
	1700	12	170	63
	1775	11	249	23
	1813	10	288	0
4V	1525	7	0	87
	1463	9	31	78
	1446	8	66	69
	1433	9	96	61
	1446	8	118	53
	1421	9	131	46
	1496	8	200	15
	1525	8	232	0
3V	1238	6	0	57
	1188	7	30	52
	1167	6	55	47
	1171	6	77	41
	1158	6	97	37
	1167	7	108	34
	1200	6	169	8
	1225	5	192	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
2V	913	5	0	32
	892	4	23	30
	888	4	40	27
	875	5	56	24
	879	4	67	22
	867	5	76	21
	896	4	141	0
1V	583	4	0	13
	579	4	4	12
	571	4	13	11
	571	4	23	10
	567	4	25	10
	567	4	29	9
	575	4	79	0

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Warning:

1.The fan and motor must be used within the prescribed scope of temperature and humidity otherwise it will cause an unexpected damage.

2. Fan is not set wrong connection protection，Provide the right voltage and line sequence according to the nameplate otherwise it will damage the product.

3. Wiring depends on the wiring diagram and please connect the earth ground if required. We don't suggest to use the extension cord .Any wrong connection may cause the damage of the fan.

4. Be careful when moving the fan and do not take the blades as a handle because it will cause the distortion and chatter.

5. Connect the thermostat if required otherwise it would damage the motor because of the over temperature.

6. The length of the mounting screws shall not exceed the requirement, otherwise the fan will be damaged.

7. Do not disassemble the fan arbitrarily. It may hurt the capacity of water tightness and dynamic balance or cause other serious problems.

8. The over current protector is necessary in case the damage from the over current.

9. Install the fan as required, any other installing direction would affect the service life of the product.

10. The fan with inlet ring should be installed follow the requirements or it will affect the performance.

11. Users should use the standard cable when install the fan otherwise it will affect the water tightness.

12. The fan should keep away from the children especially the blade and electric parts .And the children are not allowed to operate the fan alone.

13. Do not connect the white signal cable directly to the red signal cable or the external DC power supply. Otherwise, the fan may be damaged.T

14.Please do not perform extraction and insertion of the connector under revolution irrespective of power on and power on and power off , and the fan should not touch or move when running.

15. Do not lift the fan wire when taking the fan, and do not impact the bearing during the handling process.

16. The version change may not be notified, please ask our company for the latest version when necessary.

17.Please be informed that we are not responsible for any damage or accidents caused by violating above rules to install and operate the fan.

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Approval

CUSTOMER APPROVAL

CUSTOMER SIGNATURE:	DATE :

Product Data Confirm :

Speed Control System :

☐ PWM ☐ 0-10V

Accessories:

☐ Air Inlet Cone ☐ Pressure nozzle ☐ Custom wire length

Note :Please check and mark the data when you sign the specification sheet .

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